

Case Study

Reset lever for circuit-breakers made of Pocan® DP 4035



Figure 1 Reset lever for circuit-breakers

The international [Legrand Group](#) is a leading supplier of products and system solutions for electrical installations and information networks for the housing construction, commercial and industrial sectors. Some 33,000 employees provide services for more than 130,000 products in over 60 countries. Legrand places great emphasis on innovative growth, with almost 5 % of the company revenue being invested in research and development each year. Another of the Group's core activities focuses on making its products and production facilities as ecologically sound as possible through energy savings, product selection and recycling.

For example, environmentally-friendly, halogen-free thermoplastics are used in the production of circuit-breakers. Among other things, these products must meet standardized requirements for fire behavior. Glass fiber- or mineral-reinforced polyamides are normally used for the housing. Now, the reset lever of Legrand's circuit-breakers is also being manufact-

Material: Pocan® DP 4035

Manufacturer: Legrand - BTicino GmbH

Industry: Electrical/Electronics

ured from a newly-developed halogen-free, flame-retardant polyester from LANXESS.

Pocan® DP 4035 meets the stringent requirements of the Legrand Group in terms of mechanical, rheological and flame-retardant properties. The material is a PBT blend reinforced with 30 % glass fibers. It achieves a UL (Underwriters Laboratories) 94V-2 flammability classification class in all colors. Halogen-free flame retardants are already being used today in response to the trend towards avoiding halogen-containing substances in products. However, the product characteristics also benefit from the new flame-retardancy. For instance, electrical properties such as tracking resistance (CTI: 1) and high-voltage arc tracking rate (HVTR: 0), which are also based on UL guidelines, offer significantly better values than polyesters containing halogen.



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Developmental Product

Any product designated as a developmental product is not considered part of the LANXESS Corporation line of standard commercial products. Complete commercialization and continued supply are not assured. The purchaser/user agrees that LANXESS Corporation reserves the right to discontinue this product without prior notice.

Typical Properties

Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

Flammability

Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

Health and Safety

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling LANXESS products mentioned in this publication. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets (MSDS) and product labels. Consult your LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS. For materials that are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

Regulatory Compliance

Some of the end uses of the products described in this brochure must comply with applicable regulations, such as the FDA, NSF, USDA and CPSC. If you have any questions on the regulatory status of any LANXESS engineering thermoplastic, consult your LANXESS Corporation representative or contact the LANXESS Regulatory Affairs Manager.

Regrind

Where end-use requirements permit, regrind may be used with virgin material in quantities specified in individual product information bulletins, provided that the material is kept free of contamination and is properly dried (see maximum permissible quantities and drying conditions in product information bulletins). Any regrind used must be generated from properly molded/extruded parts, sprues, runners, trimmings and/or film. All regrind used must be clean, uncontaminated, and thoroughly blended with virgin resin prior to drying and processing. Under no circumstances should degraded, discolored, or contaminated material be used for regrind. Materials of this type should be discarded. Improperly mixed and/or dried regrind may diminish the desired properties of a particular LANXESS product. It is critical that you test finished parts produced with any amount of regrind to ensure that your end-use performance requirements are fully met. Regulatory or testing organizations (e.g., UL) may have specific requirements limiting the allowable amount of regrind. Because third party regrind generally does not have a traceable heat history or offer any assurance that proper temperatures, conditions, and/or materials were used in processing, extreme caution must be exercised in buying and using regrind from third parties. The use of regrind material should be avoided entirely in those applications where resin properties equivalent to virgin material are required, including but not limited to color quality, impact strength, resin purity, and/or load-bearing performance.

Color and visual effects

Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.

Note:

The information contained in this publication is current as of October, 2008. Please contact LANXESS Corporation to determine if this publication has been revised.

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